ELSEVIER

Aquaculture 176 (1999) 135–144

Aquaculture

Experimental intensive culture of summer flounder, *Paralichthys dentatus*

John S. Burke [a,*], Tadahisa Seikai [b], Yousuke Tanaka [c], Masaru Tanaka [c]

[a] *National Marine Fisheries Service, Beaufort Laboratory, Beaufort, NC, 28516, USA*
[b] *Fisheries Research Station, Kyoto University, Maizuru, Kyoto 625, Japan*
[c] *Laboratory of Marine Stock-Enhancement Biology, Division of Applied Biosciences, Graduate School of Agriculture, Kyoto University, Kyoto, 606-8502, Japan*

Abstract

Summer flounder were cultured based on techniques developed for the Japanese flounder, *Paralichthys olivaceus*. For production of early juveniles, three water temperatures (18, 20 and 22°C) were tested. Larvae were hatched and reared through first feeding at relatively high concentration (30–60/l). Preflexion larvae were stocked in nine 100 l tanks at concentrations of 10 larvae/l and harvested as juveniles of 1.75–3.5 cm. Duration of temperature trials varied with temperature from 42 to 58 days. Survival varied from 0.5 to 63% with low survival due to outbreaks of disease in some tanks. In tanks without disease, relatively low survival (43%) appeared to be due to cannibalism. The occurrence of albinic (hypomelanisys) juveniles was from 5 to 10% and appeared to be negatively correlated with temperature. The occurrence of right eyed (reversal) fish was 0 to 3.5% and appeared independent of temperature. Summer flounder may require smaller prey during first feeding than Japanese flounder; however, results indicate that once first feeding is accomplished the Japanese culture system can produce summer flounder juveniles efficiently.

Keywords: *Paralichthys dentatus*; *P. olivaceus*; Intensive culture; Temperature; Growth; Mortality; Pigmentation